LAVRENT'YEV, A.G.

Violators of standards. Standartizatsiia 29 no.5:51 My '65.
(MIRA 19:1)

LAVRENT'YEV, A.I.

Struggle for the catchment area and the transformation of
the hydrographic network. Vest.Mosk.un.Ser.biol., pochv.,
geol., geog. 14 no.2:205-216 '59.   (MIRA 13:4)

1. Kafedra dinamicheskoy geologii Moskovskogo gos.universiteta.
                    (Rivers)

LAVRENT'YEV, A.I.

Indications of the cooling of the Selenga Valley in the Pleistocene.
Geol. i geofiz no.5:80-83 '60.   (MIRA 13:9)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
         (Selenga Valley--Paleoclimatology)

LAVRENT'YEV, A.I.

Sloping surface of the bottom of the river valley, its dynamics, morphology and loose cover as revealed by a study in the middle and lower Yenisey Valley. Trudy Inst. geol. i geofiz. Sib. otd. AN SSSR no.24:67-74 '64.

(MIRA 18:1)

LAVRENTYEV A. I.

AYZENSHTADT,M.G.; LAVRENT'YEV,A.I.

Oxidation and digester shop work practices.   Bum.prom.30 no.6:
16-19   Je '55.   (MIRA 8:9)

1. Glavnyy inzhener Sukhonskogo tsellyulozno-bumazhnogo kombinata
(for Ayzenshtadt) 2. Nachal'nik proizvodstva kombinata (for Lav-
rent'yev)
                     (Paper industry)

LAVRENT'YEV, Arkadiy Ivanovich [deceased]; KASHEKOV, Lev Yakovlevich, inzhener; KRYUKOV, V.L., redaktor; PAVLOVA, M.M., tekhnicheskiy redaktor

[Mechanization of the water supply on stock farms] Mekhanizatsii vodosnobzheniia zhivotnovodcheskikh ferm. Izd. 3-e, perer. i dop. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 295 p.   (MLRA 9:9)
        (Water supply, Rural)

SAKS, V.N., glav. red.; ARKHIPOV, S.A., zam. glav. red.; BISKE,
S.F., red.; VDOVIN, V.V., red.; VOLKOVA, V.S., red.;
GROMOV, V.I., red.; IVANOVA, I.K., red.; LAVRENT'YEV, A.I.
red.; MARTYNOV, V.A., red.; NIKOLAYEV, N.I., red.; STRELKOV,
S.A., red.; TROITSKIY, S.L., red.; CHOCHIA, N.G., red.;
SHANTSER, Ye.V., red.; SHATSKIY, S.B., red.

[Basic problems in the study of the Quaternary period; for
the 7th Congress of INQUA, U.S.A., 1965] Osnovnye problemy
izucheniia chetvertichnogo perioda; k VII Kongressu INQUA
(SShA, 1965). Moskva, Nauka, 1965. 495 p. (MIRA 18:9)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut
geologii i geofiziki. 2. Chlen-korrespondent AN SSSR (for
Saks).

LAVRENT'YEV, A. I.

Structure of the Yenisey Valley in the region of the Abalakovo
narrowing. Geol. i geofiz. no.4:159-164 '65.

(MIRA 18:8)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.

LAVRENT'YEV, A.K.; KUBAYEVSKIY, N.G.: SHCHEPIN, Ye.V.

Repairing large storage tanks without dismantling. Rats.i izobr.
predl. v stroi. no.113:15-16 '55.   (MLRA 9:4)
(Tanks)

LAVRENT'YEV, A.P. [deceased].

"New data on the lymphatic system of the viscera" (Trudy of the
Leningrad Institute of Public Health, vol.35). Arkh.anat. gist,
i embr. 35 no.4:110-111 Jl-Ag '58   (MIRA 11:10)
                (LYMPHATICS)

LAVRENT'YEV, Aleksandr Sergeyevich, strogal'shchik; GUROV, S., redaktor; IGNAT'YEVA, A., tekhnicheskiy redaktor

[A planer's workmanship] Masterstvo strogal'shchika. [Moskva] Moskovskii rabochii, 1956. 55 p.   (MLRA 10:2)

1. Moskovskiy stankozavod imeni S.Ordzhonikidze (for Lavrent'yev) (Planing machines)

137-58-4-6735

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 62 (USSR)

AUTHORS: Tageyev, V. M., Ivanov, K. N., Bodyagin, D. Ya.,
Lavrent'yev, B. A.

TITLE.   Improving the Quality of Steel Ingots and the Technical and Economic Level of Their Utilization (Uluchsheniye kachestva stal'-nykh slitkov i tekhniko-ekonomicheskikh pokazateley ikh ispol'-zovaniya)

PERIODICAL: V sb.: Metallurgiya. Moscow-Leningrad, AN SSSR, 1957, pp 65-76

ABSTRACT: The results of investigations by Leningrad metallurgists in the theory of crystallization and the mechanism of the origin of various types of inhomogeneities in steel ingots are set forth; new types of ingots for forging and rolling, designed on the basis thereof, are described. Data on the employment of spec-ialized forging ingots with smaller shrinkage heads, without shrinkage head, and with greater taper (10-12%), and on the use of hollow ingots, are presented.
A. Sh.

Card 1/1   1. Steel ingots--Development   2. Crystallization--Theory

LAVRENT'YEV, B.A

report submitted for the 5th Physical Chemical
Conference on Steel Production, Moscow-- 30 Jun 1959.

LAVRENT'YEV, B.I.

1-4E2c

"Removal of scale from steels at elevated temperatures

and

15% H_2SO_4 was at 15° 95, 78, 18, and 57%; at 46° 92, 84, 28, and 72.7%, and at 70° 83, 33, 28, and 12%. Dense films of Sn formed from some ... g. $SnSO_4$, in...

FILIMONOV, I.N., prof.; KONONOVA, Ye.P., prof.; LAVRENT'YEV, B.I., prof.;
PLECHKOVA, Ye.K., prof.; SNESAREV, P.Ye., prof., zasluzhennyy
deyatel' nauki; GRASHCHENKOV, N.I., otv.red.; BOGOLEPOV, N.K.,
prof., red.; DAVIDENKOV, S.N., red.; MIKHEYEV, V.V., prof.,
red.; RAZDOL'SKIY, I.Ya., red.; SMIRNOV, L.I., red.; FUTER,
D.S., prof., red.; SENCHILO, K.K., tekhn.red.

[Multivolume manual on neurology] Mnogotomnoe rukovodstvo po
nevrologii. Moskva, Gos.izd-vo med.lit-ry. Vol.1, book 1.
[Anatomy and histology of the nervous system] Anatomiia i gisto-
logiia nervnoi sistemy. 1959. 487 p.   (MIRA 12:8)

1. Chlen-korrespondent AMN SSSR (for Filimonov, Razdol'skiy,
Smirnov). 2. Chlen-korrespondent AN SSSR (for Lavrent'yev, Grashchen-
kov). 3. Deystvitel'nyy chlen AMN SSSR (for Grashchenkov, Davidenkov).
                          (NERVOUS SYSTEM)

KAMAYEV, Vladimir Dorofeyevich, kand. ekon. nauk; LENSKAYA,
Svetlana Alekseyevna, kand. ekon. nauk; LAVRENT'YEV, D.F.,
red.

[The role of automation in the building of communism in the
U.S.S.R.] Rol' avtomatizatsii v stroitel'stve kommunizma v
SSSR. Moskva, Vysshaia shkola, 1963. 91 p. (MIRA 17:3)

41580

S/241/62/010/010/002/007

D296/D307

27.1210

AUTHORS: Leshchinskiy, L.A., Trusov, V.V., and Lavrent'yev, E.V.

TITLE: Fluorescent microscopic examination as a method for
              detecting early changes in the peripheral blood after
              exposure to ionizing radiation.

PERIODICAL: Meditsinskaya radiologiya, v. 10, no. 10, 1962, 32-35

TEXT: The present work was carried out under the leadership of Pro-
fessor A.Ya. Gubergrits. Staining of blood films with acridine oran-
ge and examination of the leucocytes under the fluorescent microsco-
pe reveals early subtle reversible changes in the nuclei in the case
of people exposed to the low doses of radioactive material used for
therapeutic or diagnostic purposes in clinical practice – even in
the absence of any clinical symptons. These changes cannot be detec-
ted by the usual morphological examination of blood film. Normally
the nuclei of leucocytes treated in the manner described exhibit an
emerald green fluorescence and only 2 – 6 % of the nuclei fluoresce
in a brilliant red or orange. After injection of therapeutic doses
of I^{131} in thyreotoxicosis or of P^{32} in chronic leucosis and even
Card 1/2

Fluorescent microscopic examination ...   S/241/62/010/010/002/007
D296/D307

after injection of the diagnostic low doses of I^{131} used to assess
the thyroid function or after a single artificial radon bath, an in-.
crease in the proportion of nuclei with a red fluorescence up to
14 - 21 % can be observed, within 24 hours after exposure. The in-
crease takes place in several separate waves. Similar changes, al-
beit of lesser degree, were found in persons exposed to occupational
radiation hazards such as radiologists. None of these people showed
any manifest quantitative or qualitative changes in the white cell
count. The change in the fluorescence is based on subtle physico-
chemical changes in the nucleic acids. The author underlines the
simplicity and sensitivity of the method and its possible importance
as an early warning in cases of subclinical radiation injuries.

ASSOCIATION: Kafedra gospital'noy terapii Izhevskogo meditsinskogo
             instituta (Department of Hospital Therapy, Izhevsk
             Institute of Medicine)

SUBMITTED: September 21, 1961

Card 2/2

AUTHORS: Startsev, V.I. and Lavrent'yev, F.F.   70-3-3-13/36

TITLE: X-ray Investigation of the Regions of Accommodation in
           the Twinning of Zinc (Rentgenograficheskoye issledovaniye
           oblasti akkomodatsii pri dvoynikovanii tsinka)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 3, pp 329 - 333
                                                    (USSR)

ABSTRACT: X-ray investigation of the zones of accommodation
      shows a lattice orientation which is different to that in
      neighbouring parts of the crystal and shows a fine structure
      in the zones.   This result confirms earlier conclusions on
      the structure of the accommodation region based on indirect
      measurements by means of profilometer and interferometer. A
      boundary layer with a strongly distorted structure has been
      found between the main crystal and the zone of accommodation.
      Annealing leads to the disappearance of both twinned layer and
      disturbed boundary layer but the zone of accommodation itself
      does not vanish showing that it has greater thermal stability.
      X-ray diffraction pictures were taken using a wide-angle X-ray
      tube and provided a sophisticated method of measuring the angles
      between regions slightly inclined to each other.   Angles of
      about 30' had to be measured.
Card1/2 There are 4 figures and 7 references, 4 of which are Soviet

70-3-3-13/36

X-ray Investigation of the Regions of Accommodation in the Twinning of Zinc

and 3 English.

ASSOCIATION: Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva (Khar'kov Institute for the Mechanisation of Agriculture)

SUBMITTED: July 19, 1957

Card 2/2

LAVRENT'YEV, F.F.; SOYFER, L.M.

Chamber for high-temperature research. Prib. i tekh. eksp. no.3:
151 My-Je '60. (MIRA 14:10)

1. Khar'kovskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
instituta khimicheskikh reaktivov.
(High temperatures)

BENGUS, V.Z.; LAVRENT'YEV, F.F.; SOYFER,. L.M.; STARTSEV, V.I.

Exposure of dislocations in calcite crystals. Kristallografiia
5 no.3:441-445 My-Je '60.   (MIRA 13:8)

1. Khar'kovskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
instituta khimicheskikh·reaktivov.
            (Calcite crystals)

LAVRENT'YEV F F

S/070/60/005/03/006/008
E132/E360

AUTHORS: Lavrent'yev, F.F., Soyfer, L.M., and Startsev, V.I.

TITLE: Thermal Etching and Annealing of Twinned Layers in
            Crystals of Antimony

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 3, pp.472-475

TEXT: The study of twinned layers with dimensions 5 to 20 μ in
single crystals of antimony has shown that annealing at 600 °C
(for less than 5 hours) leads to the establishment of mono-
crystallinity in the specimen. The twin boundaries and the glide
steps are the place where the most intense thermal etching occurs.
Edge dislocations have been discovered both in the parent crystal
and in the twinned part. The dislocation lines lie in the $11\bar{1}$
plane. The 111 planes in antimony are the directions of the
principal cleavage. The crystals of antimony were obtained, after
preliminary zone refining, by the Shubnikov-Obreimov method.
Specimens were in the form of plates 2-3 mm thick and 10-12 mm
in diameter. They were prepared by cleaving the crystal which had
been grown. The deformation produced in this process gave rise
to the twinned layers mentioned. The examination was carried out
Card 1/2

S/070/60/005/03/006/008
E132/E360

Thermal Etching and Annealing of Twinned Layers in Crystals of
Antimony.

with a MIM-7 metallurgical microscope using oblique illumination
and by the divergent-beam X-ray technique (reflexions from 111
and 001 planes being used); Annealing at 600 ° was carried out
in a current of hydrogen. Intense thermal etching accompanied the
annealing process. A special high-temperature camera was used to
follow the course of the etching under these conditions. There
are 5 figures and 11 references: 8 Soviet and 3 English.

ASSOCIATION: Khar'kovskiy institut mekhanizatsii i elektrifikatsii
                sel'skogo khozyaystva(Khar'kov Institute for the
                Mechanisation and Electrification of Agriculture)
SUBMITTED.   September 18, 1959

Card 2/2

S/070/60/005/005/019/026/XX
E132/E160

AUTHORS: Startsev, V.I., Bengus, V.Z., Lavrent'yev, F.F., and
             Soyfer, L.M.

TITLE: The Formation of Dislocations in the Twinning of Calcite

PERIODICAL: Kristallografiya, 1960, Vol.5, No.5, pp. 737-743

TEXT: It is found that in calcite a twin boundary not
containing dislocations is made visible by selective etching
although the intensity of etching is significantly less than the
intensity of etching at dislocations. The existence of incoherent
twin boundaries containing dislocations has been experimentally
shown. In the crystal in the twinning process complete
dislocations are formed. The twins were produced by Garber's
method (Ref.5). Twin layers were studied on the face of the
crystal not forming steps on twinning, i.e. 100 or 010. The twin
plane could be indexed as 110 with the boundaries of the twinned
layers parallel to [001].

There are 4 figures and 12 references: 11 Soviet and 1 English.

ASSOCIATION: Vsesoyuznyy institut khimicheskikh reaktivov,
             Khar'kovskiy filial (All-Union Institute for Chemical
             Reagents Khar'kov Branch)

Card 1/1   SUBMITTED: February 2 1960

S/126/62/013/003/016/023
E091/E135

AUTHORS: Lavrent'yev, F.F., and Startsev, V.I.

TITLE: On the structure of the accommodation region in
             monocrystals of zinc and bismuth

PERIODICAL: Fizika metallov i metallovedeniye, v.13, no.3,
             1962, 441-450

TEXT: Bismuth and zinc were purified by zone refining, and
monocrystals of these metals of high purity were obtained.
Specimens were cut from the monocrystals along the cleavage plane
at liquid nitrogen temperature (in order to reduce deformation
by slip). On splitting a crystal, stresses are set up under the
action of which twinning bands form. Therefore, application of
additional stress for the production of twins and accommodation
regions is unnecessary. The specimens were studied with a
metallurgical microscope, using oblique illumination, and with
a microinterferometer. In order to expose dislocations in
bismuth, monocrystals of this metal were etched in a solution
consisting of 10 parts H_2SO_4, 10 parts H_2O and 1 part HNO_3 (67%).
Card 1/3

On the structure of the ...   S/126/62/013/003/016/023
                                           E091/E135

The zinc crystals were irradiated with a converging beam and then
annealed. A special attachment to the metallurgical microscope
was constructed by means of which changes in the accommodation
region during annealing could be kept under constant observation.
After annealing, the zinc crystals were again irradiated and
studied metallographically, Polygonisation of accommodation
regions was observed to occur when the dimensions of the latter
exceeded 100 μ. On annealing, fusion of blocks of polygonised
accommodation regions occurs. The algebraic sum of the angles
between the blocks agrees well with the resultant angles between
the blocks produced after fusion, which confirms the dislocation
structure of the accommodation region. Selective etching of
monocrystals of bismuth showed that dislocations concentrate at
the boundary between the accommodation region and the parent
crystal. In zinc crystals no polygonisation of accommodation
regions of less than 100 μ dimensions takes place during
annealing; only a decrease of the width of this region occurs.
Accommodation regions, the dimensions of which are less than
15 μ, disappeared completely after annealing for 5 hours at
Card 2/3

On the structure of the S/126/62/013/003/016/023
                                            E091/E135

410 °C, i.e. collapse of dislocation loops, representing the
accommodation region, occurred.
There are 6 figures and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh
             temperatur AN USSR
             (Physicotechnical Institute of Low Temperatures,
             AS UkrSSR)

SUBMITTED: April 3, 1961

Card 3/3

L 18099-63   EWT(1)/EWP(q)/EWT(m)/BDS   AFFTC/ASD/ESD-3 JD

ACCESSION NR: AP3004101   S/0070/63/008/004/0632/0640

AUTHORS: Startsev, V. I.; Bengus, V. Z.; Komnik, S. N.; Lavrent'yev, F. F.

TITLE: Interaction of dislocations during twin growth in crystals

SOURCE: Kristallografiya, v. 8, no. 4, 1963, 632-640

TOPIC TAGS: dislocation, interaction, crystal, twinning, zinc, calcite, relief

ABSTRACT: The authors have studied the interaction of dislocations in zinc and calcite crystals. A high density of twinning dislocations and their paired correlatives in the neighboring edges of fine twin layers in calcite have been detected experimentally. It has been found that the stress necessary to shift the edge of a thin twin layer (less than 1μ) is much greater than that necessary to move the twin edge of a thicker layer. Different kinds of pile-ups of twinning dislocations were observed experimentally at the edges of twin layers. It has been shown that the distribution pattern of dislocations in these pile-ups is determined by the type of deposit. Experiments have also proved that the region of accommodation is repelled from the twin boundary in zinc crystals (because of the interaction of twinning and unit dislocations. It has been shown that the lack of agreement between the experimentally measured relief created by twinning in zinc and the relief

Card 1/2

L 18099-63

ACCESSION NR: AP3004101

plotted from geometrical constructions is due to slippage in a twin. The inter-
action of twinning and unit dislocations during untwinning of zinc crystals leads
to the formation of nonbasic partial dislocations (observed experimentally), which
may be the cause of increased strength. Orig. art. has: 6 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperatur AN USSR (Physical
and Technical Institute of Low Temperatures, Academy of Sciences, Ukrainian SSR)

SUBMITTED: 06Mar63   DATE ACQ: 15Aug63   ENCL: 00

SUB CODE: PH   NO REF SOV: 007   OTHER: 005

Card 2/2

L 15467-63   EWP(q)/EWT(m)/BDS   AFFTC/ASD   JD/JG

ACCESSION NR: AP3005432   S/0020/63/151/005/1071/1073

AUTHORS: Lavrent'yev, F. F.; Salita, O. P.

TITLE: Pyramidal slip in zinc crystals

SOURCE: AN SSSR. Doklady*, v. 151, no. 5, 1963, 1071-1073

TOPIC TAGS: slip in zinc crystal, dislocation displacement, metal-lurgy, elastic deformation, slip, zinc crystal

ABSTRACT: The mechanical stress which starts the movement of disloca-tions is an important physical characteristic of a crystal with res-pect to plastic deformation by slipping. The authors measured the stress necessary for dislocation displacement in the plane of a pyra-mid of the second kind, second order ($\overline{1}22$) in the direction [011] in zinc crystals. Single zinc crystals were subjected to pure bending deformation. The crystals were selectively etched before and after loading. Dislocations were then observed under the microscope with magnifications from 140X to 540X as displacements of the etch pits.

Card 1/2

L 15467-63

ACCESSION NR: AP3005432   2

The values of starting stresses varied by a factor of 2 or 3. "In conclusion, we express our deep gratitude to our scientific supervisor V. I. Startsev for constant attention to this work." Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperatur Akademii nauk, UcrSSR (Low temperature physicotechnical institute, Academy of sciences, UkrSSR)

SUBMITTED: 13Jan63   DATE ACQ: 06Sep63   ENCL: 00

SUB CODE: PH, ML   NO REF SOV: 001   OTHER: 003

Card 2/2

L 24652-65   EWT(m)/EWP(b)/T/EWP(t)   IJP(c)   JD
ACCESSION NR: AP5004679   S/0126/64/018/003/0428/0436

AUTHOR: Lavrent'yev, F. F.

TITLE: Interaction of dislocations in zinc, bismuth and antimony associated with twinning

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 3, 1964, 428-436

TOPIC TAGS: crystal dislocation, crystal, zinc, bismuth, antimony, matter structure

Abstract: The article gives the results of a study of the phenomena accompanying twinning in crystals of zinc, bismuth, and antimony. The possible reactions of complete dislocations with complete and twinning dislocations are examined. Some of these reactions are confirmed experimentally.
The propagation of the twinning interlayer in zinc crystals is accompanied by a slip along the (001) and (100) planes of the matrix crystal, and along the (001)* planes of the twinning interlayer. Slip along (001) planes of the matrix crystal leads to the formation of an accommodation region.
At the boundary of the accommodation region in zinc and bismuth crystals there takes place an interaction between complete dislocations

Card 1/2

L 24652-65
ACCESSION NR: AP5004679   3

which leads to the appearance of new dislocations.
     During the mechanical untwinning of zinc, bismuth, and antimony
crystals, dislocations are formed as a result of the interaction of
complete dislocations with twinning dislocations in the twin. During
thermal untwinning, dislocations arise only in those areas where the
boundaries of the twin had been located, and are absent from the area
where the twin had been situated; this is attributed to the closing of
the loops of complete dislocations in the twin during annealing.
     The author expresses his gratitude to V. I. Startsev for his con-
stant interest in the work, and to V. Z. Bengus and S. N. Komnik for an
evaluation of the results. Orig. art. has 5 figures and 7 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperatur AN UkrSSR (Physioco-
technical Institute of Low Temperatures, AN UkrSSR)

SUBMITTED: 20Jul63   ENCL: 00   SUB CODE: SS, NP

NO REF SOV: 012   OTHER: 005   JPRS

Card 2/2

L 36108-66   EWT(l)/EWT(m)/T/EWP(t)/ETI   IJP(c)   JD/GG

ACC NR: AP6017312   (A)   SOURCE CODE: UR/0126/66/021/005/0793/0795

                                                                                40

AUTHORS: Lavrent'yev, F. F.; Soldatov, V. P.; Kazarov, Yu. G.

ORG: Institute of Physics and Technology of Low Temperatures, AN UkrSSR (Fiziko-tekhnicheskiy institut nizkikh temperatur AN UkrSSR)

TITLE: Growth of single crystals of zinc and bismuth of given form and crystallographic orientation

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 5, 1966, 793-795

TOPIC TAGS: zinc, bismuth, metal crystal, single crystal

ABSTRACT: An apparatus for the growth of metal single crystals of predetermined form and crystallographic orientation is presented. The developed apparatus supplements the device developed by Yu. V. Sharvin and V. F. Gantmakher (PTE, 1963, No. 6, 165). A schematic of the apparatus is presented (see Fig. 1). The performance of the apparatus was tested by growing zinc and bismuth single crystals. It is concluded that the method should prove useful for growth of single crystals of other high-melting metals.

Card 1/2   UDC: 669-172:546.87
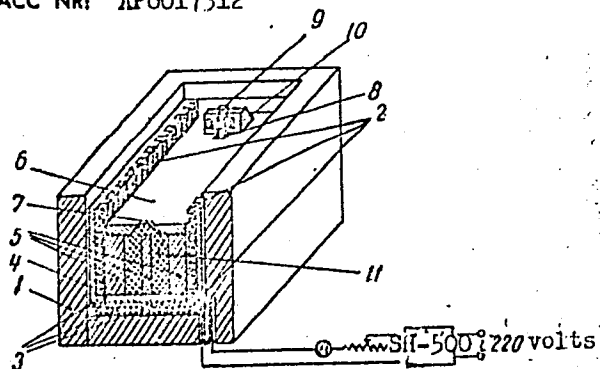
L 36108-66

.ACC NR: AP6017312

Fig. 1. Schematic of the installation for the growth of single crystals of zinc and bismuth. 1 - pyrophyllite box, 2 - box sections, 3 - heaters, 4 - pyrophyllite support, 5 - prismatic blocks, 6 - top, 7 and 8 - openings for control and addition of melt, 9 - seed, 10 - orienting support, 11 - melt.

220 volts

Orig. art. has: 3 figures.

SUB CODE: 20/   SUBM DATE: 23Jul65/   ORIG REF: 005

LS
Card 2/2

BEREZNIKOV, V.V., kand.tekhn.nauk; LAVRENT'YEV, G.A., inzh.

Determination of the initial gap in the linking of a shaft and a plastic slide bearing. Mekh. i elek. sots. sel'khoz. 20 no.1:45 '62.   (MIRA 15:2)

1. Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskiy institut remonta i ekspluatatsii mashinno-traktornogo parka.

(Bearings (Machinery))

35680

15.8400 15.8360

S/032/62/028/004/024/026
B116/B104

AUTHORS: · Bereznikov, V. V., and Lavrent'yev, G. A.

TITLE: Attachment of thermocouples to parts of polymeric materials

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 4, 1962, 506

TEXT: A special device (Fig.) for attaching thermocouples to poly-
caprolactam (caprone) slide bearings is described. The needle 1 (0.5 -
0.4 mm diameter) is heated by the spiral 2 connected with a ТР-17 (TR-17)
transformer. The thermocouple 3 is connected over the terminals 4 and 5
with a ЛАТР-1 (LATR-1) transformer. The hot junction of thermocouple 3 is
introduced in the notches of needle 1. The temperature of the needle and
of the thermocouple wires should be slightly higher than the melting tem-
perature of caprone. Spring 6 serves for tightening the thermocouple
wires during adjusting and heating. After heating the needle and wires,
the bearing 7, to which the thermocouple is to be attached, is approached
to the hot junction. Under the action of its own weight, the bearing 7
shifts downward until touching the stage 8. The hot junction of the
thermocouple is adjusted to the required depth of the bearing. The heating
of the needle and of the thermocouple is interrupted, and the wires are

Card 1/2

Attachment of thermocouples...

S/032/62/028/004/024/026
B116/B104

removed from the terminals. The needle is heated and removed from the bearing 7. The depth of adjustment depends on the table height which is controlled by means of the nuts 9. The device described was used for attaching a copper-constantan thermocouple to slide bearings of 48 mm diameter, 3 mm wall thickness, and 40 mm width. The distance between the depth of adjustment and the sliding surface was 0.1 mm. At sliding velocities up to 2 m/sec, caprone starts melting at $\sim$125 - 130°C. At a sliding velocity of $>$2 m/sec and a load of $>$75 kg/cm^2, a jumplike increase of the bearing temperature was observed as from 100 - 105°C, and the bearings became useless. Maximum working temperature of caprone bearings is 100 - 110°C. There is 1 figure.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskiy institut remonta i ekspluatatsii mashinno-traktornogo parka (All-Union Scientific Research Technological Institute for the Repair and Utilization of Tractors and Machinery)

Card 2/3

ACCESSION NR: AP3000116   S/0122/63/000/005/0035/0039

AUTHOR: Lavrent'yev, G. A.

TITLE: Influence of polyamide resin coating on the sliding properties of friction bearings

SOURCE: Vestnik mashinostroyeniya, no. 5, 1963, 35-39

TOPIC TAGS: polyamide resin, layer thickness, bearings, shafts, loading, abrasion, temperature, coefficient of friction, vibration

ABSTRACT: The article presents experimental results obtained in applying polyamide resin layers of various thicknesses to the shaft and friction bearing assemblies. Layers ranging from 0.05 to 4.5 mm were tested and the amounts of unlubricated metal removed were investigated. The shafts were 48 sub -0.05 mm in diameter and 10 sub 00.1 in length. They were made of steel with HRC hardness 46-50 and had finished surfaces. For the type of bearings used see Fig. 1, Enclosure 1. The experiments were conducted under a constant load of 30 kg/Sq cm for 100 minutes. Thereafter the loads were increased at 5-minute intervals to 50, 100, 150, 200, and 250 kg/Sq cm. The speed of sliding was kept constant at 0.504 m/sec. The amount of metal abrasion was determined with an analytical balance. It was noted that

Card 1/2

ACCESSION NR: AP3000116

the decrease of resin thickness from 4.0 to 0.05 mm caused a 2- to 3-fold reduction
in the amount of abrasion. However, at layer thicknesses of 0.08 to 0.1 mm an
increase of abrasion on the steel shaft was observed. The increase of abrasion
with the increased thickening of the layer is attributed to poorer heat removal;
the increase at the very thin layers is attributed to the influence of surface
imperfections below the layer and to inaccuracies of the assembly. Hard particles
embedded in the polymer also contributed to abrasion. The coefficient of friction
was found to increase with the thickness of the layer and to decrease with the
load. This coefficient also decreased by 30 to 40% when a lubricant was applied,
but at thicknesses below 0.2 mm this effect was reversed and an increase of temper-
ature was observed. It is concluded, after discussing the shaft displacement due
to the deformation of the polymer layer and the dynamic stresses caused by vibra-
tion, that for assemblies in which the shaft cannot be displaced the optimal layer
thickness is 0.20 to 0.25 mm; when abrasion may occur, the thickness should be over
2.5 mm. For dynamic loading the thickness should range from 4.0 to 4.5 mm. A
thickness of 0.1 mm should be considered the minimum for all cases, and 0.2 to 0.3
mm for those conditions under which abrasion occurs. Orig. art. has: 6 figures
and 10 formulas.

ASSOCIATION: none

Card 2/4

ACCESSION NR: AP3000116

SUBMITTED: 00

SUB CODE: MD

DATE ACQ: 14Jun63

NO REF SOV: 010

ENCL: 01

OTHER: 000

Card 3/4

ACCESSION NR: AP3000116

ENCLOSURE: 1

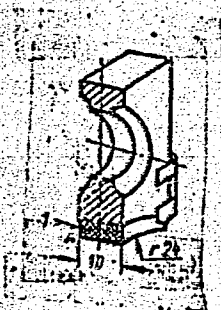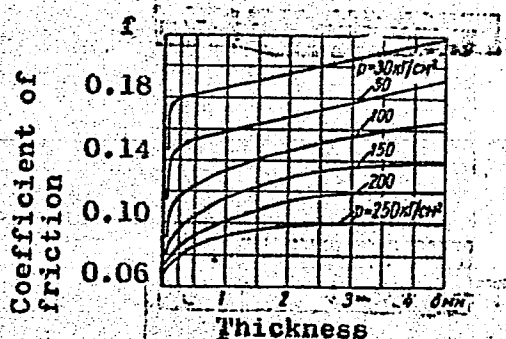

Fig. 1 Section of
a bearing.

Fig. 2 Relation between the coefficient
of friction and thickness of the
polyamide layer.
(Loads, p, expressed in kg/Sq cm.)

Card 4/4

LAVRENT'YEV, G.T., inzhener.

Adjusting a forging hammer by means of an experimental slide valve. Vest.
mash. 33 no.3:36 Mr '53.   (MLRA 6:5)
                                                                (Forging)

L. 40930-66   EWT(l)/FCC   GW

ACC NR: AP6011375   SOURCE CODE: UR/0362/66/002/003/0316/0319

AUTHOR: Gorshkov, A. I.; Ignat'yev, V. I.; Lavrent'yev, G. Ya.; Stefanovskiy, A.M.;
Yashukov, V. P.

ORG: none

TITLE: Effect of meteor streams on the electrical field of the atmosphere

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 3, 1966, 316-319

TOPIC TAGS: meteor, atmospheric electricity, electric field

ABSTRACT: Data on measurements of the electrical field of the atmosphere enabled the authors
to study the effect of meteor streams on this field. The results of measurements of nine geo-
physical stations were used. The data on the electrical field of the atmosphere were analyzed
by calculating the mean diurnal and mean monthly values of the field from the data of each geo-
physical station. These values were averaged for the three years of observations (1957—1959).
Then the variations of the field, i.e., the differences between the mean diurnal and mean month-
ly values, were calculated. The calculated values and the change in the number of meteors for
all three streams (Perseid, Geminid, and Quadrantid) were compared. The comparison readi-
ly showed that the Perseid meteors did not affect the electrical field of the atmosphere. An

Card   1/2   UDC: 551.594

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ACC NR: AP6011375

δ

increase of the field during the passage of meteors was noted only for the more powerful
streams, such as Geminid and Quadrantid. However, the dispersion of the data did not permit
considering this conclusion sufficiently reliable. Therefore the correlation method of analyz-
ing the experimental data was used to elicit the assumed relation between the changes of the
electrical field and the number of meteors. The confidence interval was also calculated for
each stream. The correlation coefficient-stream intensity curve, for which the 10-min value
of the number of meteors was taken, showed that for the most powerful streams the correla-
tion coefficients had essentially positive value. Thus, statistical analysis of the results of
the measurements showed with sufficient reliability that powerful meteor streams affect the
electrical field of the atmosphere at the level of the earth. A detailed study of the relation-
ship between these two phenomena and an explanation of the mechanism of this relation is
needed for the final solution of this problem. Orig. art. has: 1 table and 3 figures.

SUB CODE: 03,04/ SUBM DATE: 02Jul65/ ORIG REF: 006/ OTH REF: 000

Card   2/2

LAVRENT'YEV, I.G.; POYARKOV, G.P.

Production of three-layer steel. Izv.vys.ucheb.zav.; chern.met. 8
no.8:38-40 '65.   (MIRA 18:8)

1. Taganrogskiy metallurgicheskiy zavod.

LAVRENT'YEV, I.G.

New type of breaker. Metallurg 8 no.2:33-34 F '63. (MIRA 16:2)

1. Nachal'nik smeny Taganrogskogo metallurgicheskogo zavoda.
   (Rolling mills—Design and construction)

L 20317-66   EWT(m)/EWP(t)/EWP(k)   IJP(c)   JD/HW
ACCESSION NR: AP5020977

UR/0148/65/000/008/0038/0040
669.141.002.2

AUTHOR: Lavrent'yev, I. G.; Poyarkov, G. P.

TITLE: Production of composed steel

SOURCE: IVUZ. Chernaya metallurgiya, no. 8, 1965, 38-40

TOPIC TAGS: composed steel, composed steel rolling, composed steel casting, composed steel production

ABSTRACT: Composed (three-layer) steel is rolled at two steel mills in the Soviet Union. At the Taganrog steel mill, the ingots are made of 3 layers: the outer layers are cast from high-carbon steel and the low-carbon steel core is cut from a plate or thick steel sheet. The core thickness has to be one-third the ingot thickness. For 670, 780, and 1080 kg ingots, the core plates are 56, 66, and 79 mm thick, respectively. Molten metal from below (bottom pouring) coming into contact with the cold mould walls and core begins to crystallize, producing a skin along the entire height of the ingot. The poured steel does not weld with the core (except the lower part of the ingot), but bridges a gap about 4 mm wide in the middle. A 240-mm thick ingot weighing one ton is rolled on a three-high mill 760/600/760 mm

Card 1/2

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L 20317-66
ACCESSION NR: AP5020977

in 21 passes with a relative reduction increasing gradually from 10.4 to 22.2%, and an overall thickness reduction from 240 to 6 mm. The welding of layers takes place during rolling, mostly in the starting passes. According to regulations, the thickness of each outer layer must be not less than 25%, and the core not less than 30%, of the overall ingot thickness. The thickness of a nominal 6-mm thick sheet actually changed from 5.9 to 6.2 mm. For instance, a 6.2-mm thick sheet had upper, middle, and lower layers 2.0, 2.1, and 2.1 mm thick, respectively. Orig. art. has: 3 figures and 2 tables.

[WW]

ASSOCIATION: Taganrodskiy metallurgicheskiy zavod (Taganrog Steel Mill)

SUBMITTED: 24Sep64   ENCL: 00   SUB CODE: MM, IE

NO REF SOV: 000   OTHER: 000   ATD PRESS: 4085

Clad 18

5   Card 2/2 BK

LAVRENT'YEV, I.M.

Existence theorem for differential equations with discontinuous
right-hand sides. Dif. urav. 1 no.11:1477-1481 N '65.
(MIRA 18:12)
1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
Submitted April 5, 1965.

L 14713-66   EWT(d)   IJP(c)

ACC NR: AP6004083   SOURCE CODE: UR/0020/66/166/002/0284/0286

AUTHORS: Lavrent'yev, I. M.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Variational theory of nonlinear equations

SOURCE: AN SSSR. Doklady, v. 166, no. 2, 1966, 284-286

TOPIC TAGS: functional analysis, variational calculus

ABSTRACT: The author establishes new theorems on existence of a solution of
$$BF(x) = x, \qquad\qquad (1)$$
where B is a linear indefinite operator and F(x) is a potential operator, without
the assumptions of boundedness of B or that the positive part of the spectrum of
B consists of a finite number of eigenvalues each of finite multiplicity. This
allows him to apply the results established here not only to nonlinear integral
equations of Hammerstein type but also to certain boundary value problems for
nonlinear differential equations. Consideration is given to equations of the form

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L 14713-66

ACC NR: AP6004083

3

(1) in which the operator B is the first of all unbounded, and F(x) is not assumed potential. Uniqueness is finally proved in certain cases by means of the concept of monotonocity of operators. This extends work of M. M. Vaynberg (DAN, 92, No. 3, 457, 1953) and (Variatsionnyye metody issledovaniya nelineynykh operatorov, 1956). The author expresses his gratitude to M. M. Vaynberg for the many valuable comments he made on this work, and to V. V. Nemytskiy for his attention. This paper presented by Academician A. N. Kolmogorov on 3 September 1965. Orig. art. has: 10 formulas.

SUB CODE: 12/   SUBM DATE: 03Sep65/   ORIG REF: 006

BVK

Card 2/2

LAVRENT'YEV, I.P.; VELICHKO, F.K.; CHIZHOV, Yu.P.

Telomerization of ethylene by carbon tetrachloride in the presence of redox systems. Izv. AN SSSR. Ser. khim. no.4: 632-635 '65.   (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

VELICHKO, F.K.; LAVRENT'YEV, I.P.; CHIZHOV, Yu.P.

Determination of transfer constant for a trichloropropyl radical
in the telomerization of C_2H_4 with CCl_4 in an open system. Izv.
AN SSSR. Ser.khim. no.1:172-174 '66.

(MIRA 19:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted
May 20, 1965.

8(0)

SOV/112-59-4-7555

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 4, p 157 (USSR)

AUTHOR: Lavrent'yev, K. A.

TITLE: Device for Quality Control of Capacitors

PERIODICAL: Radiotekhn. proiz-vo, 1957, Nr 13, pp 34-35

ABSTRACT: A PME-1 device for testing KBG-MP capacitors is described. The
device is actually a capacitance bridge which compares the under-test
capacitor in one arm with a standard capacitor in the other. A phase-sensitive
rectifier and a microammeter serve as a zero indicator. The scale shows per
cent deviation of capacitance from the rating. The spread zones ± 5, ± 10, and
$\pm 20\%$ are marked with different colors. One illustration.

V.F.R.

Card 1/1

LAVRENT'YEV, K.G.

VOTLOKHIN, B.Z.; LAVRENT'YEV, K.G.

Introduction of electromechanical bulk product level indicators in industrial installations of petroleum refineries. Azerb. neft. khoz. 36 no.6:34-35 Je '57.

(Liquid level indicators)

(MLRA 10:9)

STRIGINA, L.R.; LAVRENT'YEV, K.G.; BRESHCHENKO, Ye.M.

Increasing the wear resistance of a granulated refractory clay
used as a heat carrier. Nefteper. i neftekhim. no. 11:13-15 '63.
(MIRA 17:5)

1. Groznenskiy neftyanoy nauchno-issledovatel'skiy institut.

MELKUMYAN, B.G., podpolkovnik meditsinskoy sluzhby; LAVRENT'YEV, K.I.,
    kapitan meditsinskoy sluzhby

Experience in the prevention of colds in military personnel.
Voen.-med.zhur. no.3:74-75 Mr '61.   (MIRA 14:7)
                        (COLD (DISEASE))

LAVRENT'YEV, L.N. (Leningrad, P-61, Petrogradskaya naberezhnaya, 26/28, kv.21)

Malignant intestinal tumors in rats following prolonged ingestion of strontium 90 through the intestinal tract. Vop. onk. 10 no.1:7-11 '64.

(MIRA 17:11)

1. Iz laboratorii toksikologii radioaktivnykh veshchestv (zav. - N.A. Zapol'skaya) Leningradskogo nauchno-issledovatel'skogo instituta radiatsionnoy gigiyeny (dir. - M.A. Nevstruyeva).

LAVRENT'YEV L.N.

28-6-19/40

AUTHORS: Gafanovich, A.A., Candidate of Technical Sciences and Lavrent'yev, L.N., Engineer

TITLE: The Wheels of Agricultural Machines (Kolesa sel'skokhozyayst-vennykh mashin)

PERIODICAL: Standartizatsiya, 1957, # 6, pp 51-55 (USSR)

ABSTRACT: The standard "ГOCT 3020-51 " for wheels of agricultural machines has been replaced by the new "normal" standard " OH-13-63-57". The article contains detailed information on this new "normal" which was worked out by the All-Union Institute of Agricultural Machinebuilding (VISKhOM) (Vsesoyuznyy institut sel'skokhozyaystvennogo mashinostroyeniya).

The information includes the calculation formulas underlying the new normal; the geometrical data on rim cross sections (table 2) and detailed drawings of plough wheel " K - 1", cultivator wheel "K - 3", and harvester wheel "K - 13" are given.

It is said that the new "normal"-standard will create pre-conditions for specialized production of wheels at 2 or 3 plants situated in different regions of the country.

Card 1/2   There are 2 tables, 3 drawings and 1 diagram.

The Wheels of Agricultural Machines   28-6-19/40

ASSOCIATION: All-Union Institute of Agricultural Machinebuilding (VISKhOM)
               (Vsesoyuznyy institut sel'skokhozyaystvennogo mashinestroyeniya)

AVAILABLE: Library of Congress

Card 2/2   1. Industry-USSR   2. Agriculture machines-Wheels-Standards

VOLKOV, Yu.I., inzh.; GAFANOVICH, A.A., kand.tekhn.nauk; GLADKOV, N.G.,
kand.sel'skokhoz.nauk; GORKUSHA, A.Ye., agr.; ZHITNEV, N.F., inzh.;
ZANIN, A.V., kand.tekhn.nauk; ZAUSHITSYN, V.Ye., kand.tekhn.nauk;
ZVOLINSKIY, N.P.; ZEL'TSERMAN, I.M., kand.tekhn.nauk; KAIPOV, A.N.,
kand.tekhn.nauk; KASPAROVA, S.A., kand.sel'skokhoz.nauk; KOLOTUSHKINA,
A.P., kand.ekon.nauk; KRUGLYAKOV, A.M., inzh.; KURNIKOV, I.I., inzh.;
LAVRENT'YEV, L.N., inzh.; LEBEDEV, B.M., kand.tekhn.nauk; LEVITIN,
Yu.I., inzh.; MAKHLIN, Ye.A., inzh.; NIKOLAYEV, G.S., inzh.;
POLESHCHENKO, P.V., kand.tekhn.nauk; POLUNOCHEV, I.M., agr.; P'YANKOV,
I.P., kand.sel'skokhoz.nauk; RABINOVICH, I.P., kand.tekhn.nauk;
SOKOLOV, A.F., kand.sel'skokhoz.nauk; STISHKOVSKIY, A.A., inzh.;
TURBIN, B.G., kand.tekhn.nauk; CHABAN, I.V., inzh.; CHAPKEVICH, A.A.,
kand.tekhn.nauk; CHERNOV, G.G., kand.tekhn.nauk; SHMELEV, B.M., kand.
tekhn.nauk; KRASNICHENKO, A.V., inzh., red.; KLETSKIN, M.I., inzh.,
red.; MOLYUKOV, G.A., inzh., red.; BLAGOSKLONOVA, N.Yu., inzh., red.;
UVAROVA, A.F., tekhn.red.

[Reference book for the designer of agricultural machinery in two
volumes] Spravochnik konstruktora sel'skokhoziaistvennykh mashin
v dvukh tomakh. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.
lit-ry. Vol.1. 1960. 655 p.   (MIRA 13:11)
    (Agricultural machinery--Design and construction)

LAVRENT'YEV, L.N. (Leningrad)

Cancer of the lower third of the trachea. Arkh.pat 18 no.3:94-95

'56   (MIRA 11:10)

(TRACHEA,neoplasms

ding. & surg. (Rus))

LAVRENT'YEV, L.N., kand.med.nauk (Leningrad, 6-ya Sovetskaya ul., d.10, kv.5)

Autogenic anaerobic infection in animals subjected to large doses
of roentgen rays [with summary in English, p.139]. Vest.khir. 79
no.12:83-84 D '57.   (MIRA 11:1)

1. Iz patologoanatomicheskoy laboratorii (nach. - G.N.Manucharyan)
        (INFECTION, exper.
            eff. of x-irradiation on autogenic anaerobic infect.
        in guinea pigs)
     (ROENTGEN RAYS, eff.
        on autogenic anaerobic infect. in guinea pigs)

GAFANOVICH, A.A., kand.tekhn.nauk; LAVRENT'YEV, L.N., inzh.

New lighter-weight parts and units of agricultural machines. Trakt.
i sel'khozmash. 33 no.5:27-30 My '63.   (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyayst-
vennogo mashinostroyeniya.

LAVRENT'YEV, L.N. (Leningrad)

Pneumonia in rats caused by cooling 5 months following roentgen
irradiation. Med.rad. 6 no.8:77-78 Ag '61. 　　　　(MIRA 14:8)
　　　(RADIATION SICKNESS)　　(PNEUMONIA)
　　　(COLD—PHYSIOLOGICAL EFFECT)

LAVRETSKIY, L.N., inzh.; ORLOVSKIY, B.Ya., inzh.-arkh.; FINKINSHTEYN,
B.A., inzh.; EZDRIN, K.B., inzh.; UKRAINCHIK, M.M., inzh.,
red.

[One-story industrial building with no monitor and with a
flat roof and a large network of columns]Odnoetazhnoe bes-
fonarnoe promyshlennoe zdanie s ploskoi krovlei i krupnoraz-
mernoi setkoi kolonn; iz opyta tresta "Mosstroi-5" Glavmos-
stroia. Moskva, Gosstroiizdat, 1961. 72 p.   (MIRA 15:9)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut orga-
nizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
Byuro tekhnicheskoy informatsii. 2. Zamestitel' upravlyayushchego
trestom "Mosstroy-5" (for Orlovskiy). 3. Starshiy prepodavatel'
Vsesoyuznogo zaochnogo politekhnicheskogo instituta (for
Finkinshteyn). 4. Rukovoditel' gruppy metodicheskikh kabinetov
tresta "Mosorgstroy" Glavnogo otdeleniya po zhilishchnomu i
grazhdanskomu stroitel'stvu v g. Moskve (for Ezdrin).
        (Moscow--Factories--Design and construction)

LAVRENT'YEV, L.N.   (Moskva)

Functional state of the pancreas in cholecystitis. Klin. med.
41 no.2:94-99 F'63   (MIRA 17:3)

1. Iz kafedry propedevtiki vnutrennikh bolezney (zav. - za-
sluzhennyy deyatel' nauki Prof. A.A. Shelagurov) II Moskov-
skogo instituta imeni N.I. Pirogova.

LAVRENT'EV, L. S.   Engr

The magnetic control of hardness of the heat treated parts

Vest Mash p. 77, Sep 51

SAVIN, V.; LAVRENT'YEV, M.

We will improve the operation of the United Volga Steamship
Companies. Rech.transp. 14 no.4:25-28 Ap '56. (MLRA 9:8)

1. Zamestitel' glvnogo dispetchera po tyage (for Savin); 2. Zame-
stitel' glavnogo dispetchera po tonnazhu (for Lavrent'yev).
(Volga River--Steamboat lines)
(Inland water transportation)

LAVRENT'YEV, M., inzh.; OL'SHAMOVSKIY, S., inzh.

Providing safe sailing for ships with underwater wings during the
dark hours. Rech.transp. 21 no.7:45-47 Jl '62.   (MIRA 15:8)
        (Planning hulls)   (Beacons)

VASIL'KOV, G., kand.veterinarnykh nauk; POLYKOVSKIY, M.D.; KUDRYAVTSEV,A.A.;
MAMADZHANOV. I.; MOLDABAYEV, Zh.; LAVRENT'YEV, M.; KHERUVIMOV,V.P.;
KURANOV, Yu.

Throughout the Soviet Union. Veterinariia 37 no.4:91-96 Ap'60
(MIRA 16:6)

1. Uchenyy sekretar' veterinarnoy sektsii Vsesoyuznoy akademii
sel'skokhozyaystvennykh nauk imeni Lenina (for Vasil'kov).
(VETERINARY RESEARCH) (VETERINARY MEDICINE)
(VETERINARY HYGIENE)

Khrenov

ACC NR: AN7002513   SOURCE CODE: UR/9003/67/000/020/0001/0001

AUTHOR: Lavrent'yev, M. (Academician; Novosibirsk)

ORG: none

TITLE: Improvement of scientific and industrial ties in Siberia

SOURCE: Izvestiya, no. 20, 24 Jan 67, p. 1, cols. 1-3

TOPIC TAGS: research facility, scientific research

ABSTRACT:
    Recently, the Soviet government decided to organize design-tech-
nological offices and experimental sections in various ministries and
departments whose purpose will be to develop closer ties between
scientific institutions and the scientists of the Siberian division and
industry. In this connection, the chairman of the Siberian division,
Academician M. A. Lavrent'yev, discusses at length the purposes and
problems of the newly organized design offices.

SUB CODE: 05/ SUBM DATE: 23Jan66 / ATD PRESS: 5111

Card   1/1

LAVRENT'YEV, M. A.

Sur la recherche des ensembles homeomorphes. C. R. Acad. Sci., 178 (1924), 187-190.

Sur la représentation des fonctions mesurables b par les séries transfinies de polynomes. Fund. Math., 5 (1924), 123-129.

Contribution à la théorie des ensembles homéomorphes. Fund. Math., 6 (1924), 149-160.

Sur les sous-classes de la classification de M. Baire. C. R. Acad. Sci., 180 (1925), 111-114.

Sur la représentation conforme. C. R. Acad. Sci., 184 (1927), 1407-1409.

Sur un problème de M. P. Montel. S. R. Acad. S_ci., 184 (1927), 1634-1637.

K teorii konformnykh otobrazheniy. Trudy fiz. - matem. in-ta im. steklova, 5 (1934), 159-246.

O nekotorykh svoystvakh odnolistnykh funktsiy. DAN, 1 (1935), 1-4.

Sur une classe de représentations continues. Matem. SB., 42 (1935), 407-424.

LAVRENT'YEV, M. A.   Con't.

O semeystvakh odnolistnykh funktsiy. L., trudy vtorogo vsesoyuzn. Matem. s"ezda, T. 2 (1936), 170-172.

Sur les fonctions variable complexe représentables par des séries de polynômes. Actual Sci. et Industr., 441 (1936), 1-62.

O nekotorykh granichnykh zadachakh v teorii odnolistnykh funktsiy. Matem. SB., 1 (43), (1936), 815-846.

O nepreryvnosti odnolistnykh funktsiy v zamknutykh oblastyakh. DAN, 4 (1936), 207-210.

K teorii struy. DAN, 18 (1938), 225-226.

O nekotorykh svoystvakh odnolistnykh funktsiy s prilozheniyami k teorii struy. Matem. SB., 4 (46), (1938), 391-458.

K teorii struynykh techeniy. DAN, 20 (1938(, 239-240.

Kvazikonformnyye otobrazheniya i ikh proizvodnyye sistemy. DAN, 52 (1946), 287-290.

Obshchaya problema kvazikonformnykh otobrazheny ploskikh oblastey. DAN, USSR, 3-4 (1946), 3-10.

LAVRENT'YEV, MA. CON'T.

Ob odnoy teoreme ostrovskogo tbilisi, soobshch. Gr. Fil. AN, 1 (1940), 171-174.

Sur la représentation conforme. S. R. Acad. Sci., 191 (1930), 1426-1427.

O nekotorykh svoystvakh odnolistnykh funktsiy. Matem. SB., 2 (44), (1937), 319-326.

Sur une équation différentielle du premier ordre. Math. Z., 23 (1925), 197-209.

SO: Mathematics in the USSR, 1917-1947
     Edited by Kurosh, A. G.
     Markusevich, A. I.
     Rashevskiy, P. K.
   Moscow-Leningrad, 1948

LAVRENT'EV, M.A.

O postroenii ptooka, obtekaiushchego dugu zadannoi formy. Moskva, 1932. 55 p., diagrs. (TSAGI. Trudy, no.118)

Summary in German.

Title tr.: Determination of the airflow around a profile of a given shape.

QA911.M65 no.118

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress 1955

LAVRENT'EV, M.A.

Ob odnoi ekstremal 'noi zadache v teorii kryla aeroplana.   Moskva. 1934.
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Summary in German.

Title tr.: A problem of extreme magnitudes of functions in the wing theory.

QA911, M65 no.155

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,
1955

LAVRENT'EV, M.A., IA. I. SEKERZH-ZEN'KOVICH and V.M. SHEPELEV.

K teorii biplannoi korobki kryl'ev. Moskva, 1935. 38 p. diagrs. (TSAGI. Trudy,
no. 153

Summary in English.

Title tr.: Biplane theory.

QA911.m65 no.153

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,
1955

L AVRENTYEV, M. A

LAVRENTYEV, M. A., and others.

Sbornik statei po voprosam udara o poverkhnost' vody. Moskva,
1935. 47 p., diagrs. (TSAGI. Trudy, no. 152)
     Summary in English.
     Other authors: M. V. Keldysh, A. I. Markushevich, L. I. Sedov, and
A. B. Lotov.
     Title tr.: Collected articles on the problems of the impact against
the surface of water.

                                    QA911.M65 No. 152

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of
     Congress, 1955.

LAVRENT'YEV, M.A. and KELDYSH, M.V.

"K Teorii Kolblyushchegosya Kryla," Tekhnicheskiye Zametki, TsAGI,
No. 45, 1935.

LAVRENT'YEV, M. A.

KELDYSH, V.V., and M.A. LAVRENT'EV

O dvizhenii kryla pod poverkhnost'iu tiazheloi zhidkosti. (In: Konferentsiia po teorii volnovogo soprotivlenifa. Moscow, 1937. Trudy, p.21-64, diagrs.)

Summary in English.

Title Tr.: Motion of an airfoil below the surface of a heavy fluid.

.TL505.K6 1936

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

LAVRENT'YEV, M. A.

"On a Problem of M. Carleman," Dok. AN 23, No. 8, 1939.

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"Concerning an Evaluation of Green's Function," Dok. AN 24, No. 2, 1939.

W.E.   LAVRENTYEV, M.A.

Atmospheres & Atmospheric Electricity

LAVRENT'EV, Mikhail Alekseevich, 1900-

Regular reflections and their application to certain problems of mechanics   Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1946. 158 p. (Fiziko-matematicheskaia biblioteka inzhenera) (51-26677)

QA646.L38

LAVRENT'YEV M. A

Lavrentiev, M. The general problem of quasi-conformal mappings of plane regions. Rep. [Dopovidi] Acad. Sci. Ukrainian SSR no. 3–4, 3–10 (1946). (Ukrainian and English)

Replace the Cauchy-Riemann equations of conformal mapping by two quite general relations

$$\Phi_i(x, y, u, v, u_x, u_y, v_x, v_y) = 0, \qquad i = 1, 2.$$
(1)

The problem is to find one-to-one maps of one region D onto another Δ by functions $u = u(x, y)$, $v = v(x, y)$ satisfying (1). Under conditions on (1) which the author terms strong ellipticity, it is stated that there exists a one-parameter family of such maps from an infinite strip between two sufficiently smooth curves to a parallel strip, and at least a three-parameter family of maps from one simply connected region to another. Certain extremal properties are mentioned, but the reviewer was not able to grasp their significance. No proofs are indicated.   *L. Ahlfors.*

Source: Mathematical Reviews   Vol   8   No. 6

LAVRENT'YEV , M. A.

"Quasi-Conforming Representations and their Derivative System," Dok. AN 52,
No. 4, 1946.

Acad. Sci. Ukraine

LAVRENT'YEV, M.

Lavrentieff, M. Sur la théorie exacte des ondes longues. Akad. Nauk Ukrain. RSR. Zbirnik Prac' Inst. Mat. 1946, no. 8, 13–69 (1947). (Ukrainian. Russian and French summaries).

Consider two-dimensional steady, irrotational motion of a heavy, incompressible ideal fluid in a channel. Let $y=y_0(x)$ the be the equation of the bottom of the channel and $y=y(x)$ the equation of the free surface. Let h denote the rate of displacement of the fluid per unit width. Let $f(z)=\varphi+i\psi=\zeta$, be charge of the complex potential mapping the strip $y_0(x)\leqq y\leqq y(x)$ in the z-plane onto the strip $0\leqq\psi\leqq h$ in the ζ-plane. A fundamental problem in the theory of surface waves is to find the class of curves $y(x)$ such that

$$|f'(z)|^2+2gy-B=0 \quad \text{for} \quad y=y(x),$$

where g is the acceleration of gravity and B is some constant. Levi-Civita and A. I. Nekrasov independently proved the existence of periodic solutions to this problem under certain restrictions. In this paper the author establishes the existence of periodic solutions over a periodic bottom for sufficiently large period, and, in addition, obtains, as a limiting case the existence of a solitary wave over a flat bottom. The proof, developed in a long series of lemmas, employs the variational methods in conformal mapping developed by the author and depends in particular on his earlier paper on jets [Mat. Sbornik N.S. 4(46), 391–458 (1938)].

Misprints are so numerous and frequently of such a confusing nature that trying to follow the details of many of the proofs is (to the reviewer) a frustrating experience. In addition, the equations are not always dimensionally consistent so that the hydrodynamic significance of some of the restrictions is not always clear; however, the preliminary announcement of these results [C. R. (Doklady) Acad. Sci. URSS (N.S.) 41, 275–277 (1943); these Rev. 6, 191] provides some of the necessary background. The importance of the results would seem to have merited more careful exposition and printing (as well as publication in a more widely read journal and language).

J. V. Wehausen.

MATHEMATICAL REVIEWS.
Vol. 14, No.

LAVRENT'YEV, M. A

Lavrent'ev, M. A general problem of the theory of quasi-conformal representation of plane regions. Mat. Sbornik N.S. 21(63), 285-320 (1947). (Russian)

The author establishes the existence of a quasi-conformal mapping by a pair of functions which satisfy a system of nonlinear equations. A system $u_x = \partial u/\partial x, \cdots, k=1, 2,$ is said to effect a quasi-conformal mapping of a domain D of ... domain of the (u, v)-plane if there exists a homeomorphic mapping (2) $u = u(x, y), v = v(x, y)$, where u and v satisfy (1). Let the point $w_0 = u_0 + iv_0$ correspond to $z_0 = x_0 + iy_0$. By the inverse of the transformation (3) $u - u_0 = u_x(x - x_0) + u_y(y - y_0)$, $v - v_0 = v_x(x - x_0) + v_y(y - y_0)$ a square ... which ... makes the angle ... with ... axis is mapped into a parallelogram ... one of whose sides, say ... and the angle formed by ... and ... respectively. Finally let W ... where Δ is the determinant of (3). Equations (1) can be replaced by the system (4) $W_x = F_k(x, y, u, v, \cdots)$ ... (2) can be written ...

analogy with the ... lines ...

$r, v,$ are called ...

Source: Mathematical Reviews,

equations in terms of the characteristics corresponding to (1). If (1) is the Laplace equation, the ... $P = \log I$ and α are connected by the Cauchy-Riemann equations. The author shows that, if the determinant ... is positive, $P = \log V$ and α satisfy ... are functions of $W_x, V, \theta, \cdots$ ... respect to u and v. Finally the author ... strongly elliptic if for every ... the ... are single-valued and differentiable, and there ... tive constant x, so that for all values of the ... $0 \leq \varphi \leq \varepsilon$, the relation $\partial F_i(\varphi)/\partial V_x > 0$ holds. If ... system (4) is strongly elliptic then R and ... elliptic system of equations $R_1 = r, R \cdots$

The author proves that under certain ... of the system (4) is strongly elliptic, then ... system (5) is elliptic. He also shows that ... properties (in particular the ... maximum principle) of conformal mapping ... Further he shows that if the system ... (4) is strongly elliptic, and the derivatives of the boundary curves $x = x(t), y = y(t)$ ... ... then there ... mapping (2) corresponding to (4) which ... strip $h \leq r \leq H$. Here the points ... respectively. The mapping is unique (with ...

S. Bergman (Cambridge)

LAVRENT'YEVA, M. A.

    "Jubilee Session of the Department of Physicomathematical Sciences," Vest. Ak.
Nauk SSSR, No. 2, 1948.

LAVRENT'YEV, M. A.

PA 7/49T66

USSR/Mathematics - History   Jul/Aug 48
    Mathematics - Function Theory

"Development Trends of Soviet Mathematics," M. A.
Lavrent'yev, 6 pp

"Iz Ak Nauk SSSR, Ser Matemat" Vol XII, No 4

Discusses subject under (1) mathematics in Russia at
the Revolution, (2) general character of Soviet
mathematics, (3) theory of numbers and algebra, (4)
theory of functions, topology, and functional analy-
sis, (5) analytical functions, (6) ordinary differ-
ential equations, (7) differential equations in par-
tial derivatives, (8) geometry, (9) theory of prob-
ability, and (10) calculating machines.

7/49T66

Lavrent'ev, M. A. A fundamental theorem of the theory of quasi-conformal mapping of plane regions. Izvestiya Akad. Nauk SSSR. Ser. Mat. 12, 513–554 (1948). (Russian)

The author calls a homeomorphic mapping (1) $u = u(x, y)$, $v = v(x, y)$ transforming a domain D into a domain Δ where u and v satisfy the system (2) $\phi_\kappa(x, y, u, v, u_x, v_x, u_y, v_y) = 0$, $\kappa = 1, 2$, $u_x = \partial u/\partial x$, ..., a quasi-conformal transformation corresponding to the system (2). Let Q be a square in the (u, v)-plane with the sides u_1u_2, u_2u_3, and let ν be the angle which u_2u_3 forms with the u-axis. By the transformation (1), Q goes into a parallelogram $z_1z_2z_3z_4$. Let $z_2 - z_0 = V_0 e^{i\theta_0}$, $\theta_0 = \arg{[(z_2 - z_0)/(z_1 - z_0)]}$, $[W, V, \Delta_1] = 1$, where $\Delta_1 = u_x v_y - u_y v_x$. The system (2) can be replaced by the relations

$$(3) \quad W_z = F_1^{(\nu)}(V, \alpha; x, y, u, v), \quad \theta_z = F_2^{(\nu)}(V, \cdots, v, y, u, v)$$

$F_1^{(\nu)}$ and $F_2^{(\nu)}$ are single-valued and continuous; ... the arguments of $F_1^{(\nu)}$ and $F_2^{(\nu)}$ we have $k < \theta < \pi - k$, Δ_1 ... nonotonically with respect to V, $V > 0$, and ...

The author calls the system (3) "strongly elliptic" if exists a constant k, $k > 0$, such that for all values of (iii) for any fixed α, x, y, u, v the function $F_1^{(\nu)}$ incre- $(\partial F_1^{(\nu)}/\partial V^{(\nu)}) > k > 0$. In the present paper the follow... result is stated. Let D and Δ be two domains bounded i... piecewise smooth curves, and let (z_1, z_2, z_3) and (u_1, u_2, u_3) respec- be two sets of three boundary points of D and Δ, respec- tively. If $F_1^{(\nu)}$, $F_2^{(\nu)}$ are strongly elliptic and possess uni- formly continuous partial derivatives, then there exists a unique quasi-conformal transformation (1) corresponding to (3), which transforms D into Δ, and such that the points z_i go into u_i, $\kappa = 1, 2, 3$. The consideration proceeds in several steps. At first it is shown that instead of the above mapping, one can consider a quasi-conformal mapping of a curvilinear strip in the (y, u)-plane into the strip $0 < v < 1$ in the (x, v)-plane, so that $\pm \infty$ go into $\pm \infty$, respectively, and where $y(x, v)$, $u(x, v)$ satisfy a system of two nonlinear equations. The problem of the solution of the above system can be replaced by solutions of the equation

Source: Mathematical Reviews,

Lorent'ev, M. A.

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Card 1 of 2

(4) $y_{xx} - \alpha_2 y_{xy} - \alpha_3 y_{yy} = \alpha_1$, $\alpha_x = \alpha_x(y, x, y_x, y_y, x, v)$,

$\kappa = 1, 2, 3$ under boundary conditions: $y(x, 0) = Y_1(x)$, $y(x, 1) = Y_2(x)$. [See also Lavrent'ev, Mat. Sbornik N.S. 21(63), 285–320 (1947); these Rev. 10, 290.]

The special case where α_x, $\kappa = 1, 2, 3$, are independent of y_x and κ is first considered. Due to the "strong ellipticity" of the basic system, (4) is elliptic, i.e., $-4\alpha_3 - \alpha_2^2 > 0$. (The author also makes some additional assumptions which he gets rid of subsequently.) The strip $0 < v < 1$ is divided into n strips S_i: $((i-1)/n) < v < (i/n)$, $i = 1, 2, \cdots, n$, and the author introduces an approximate solution $Y_n(x, v)$ which in each strip S_i satisfies the equation $y_{xx} = \alpha_3^{(0)} y_{yy} - \alpha_2^{(0)} y_{xy} = \alpha_1^{(0)}$, where $\alpha_x^{(0)}$ approximate α_x, $\kappa = 1, 2, 3$. He determines bounds for the variation of $Y_n(x, v)$ when the boundary values vary, and states that the $Y_n(x, v)$, $n = N, N+1, \cdots$ form a normal family, from which the existence of the solution of (4) (in the special case under consideration) follows. He next considers the general case, returning to the system (3). From the results in the special case it follows that a quasi-conformal mapping corresponding to a system

(5) $W = F_1(W, \alpha, x, u_4^{(n)}(X), u^{(n)}(X), v)$,
$\theta = F_2(V, \alpha, x, \alpha_3^{(n)}(X), u^{(n)}(X), v)$,

exists. Dividing the strip $0 < v < 1$ into n strips S_n and using the results previously obtained he constructs an approximate solution of (3) in every strip S_n, and shows that these approximate solutions form a normal family, $n = N, N+1, \cdots$, from which the existence of a unique solution of the original equation (3) is concluded. In order to prove these results a number of theorems on quasi-conformal transformation, e.g., an analogue of the Schwarz-Lindelöf principle, are used. It would be desirable for the author to present some of his considerations in more detail.

S. Bergman (Cambridge, Mass.).

Source: Mathematical Reviews,   Vol 11   No. 9

Lavrent'ev, M. A.   Card 2 of 2

LAVRENT'YEV, M. A.

"Awarding of the Stalin Prizes," Uspekh Matemat. Nauk, Vol 4, No. 3, 1949.

LAVRENT'YEV, M.A.

Lavrent'ev, M. A., and Ishinskii, A. Yu. The dynamical forms of the loss of stability of elastic systems. Doklady Akad. Nauk SSSR N.S. 64, 779-782 (1949) (Russian)

The ... of ... unstable equilibrium ... and ... ...

J. C. ..., Hanover, N. H.

Source: Mathematical Reviews, vol. 1x, No. x

LAVRENT'EV, Mikhail Alekseevich, 1900

Liusternik, Lazar' Aronovich, 1899- jt. au

A course in calculus of variations. Dopushcheno v kachestve uchebnika dlia gos. univers-
itetov. Izd. 2., perer. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1950. 296 p.
(51-26231)

QA315.L3 1950 RPB

LAVRENT'YEV, M.A.

Lavrent'ev, M. A., and Bicadze, A. V. On the problem of equations of mixed type. Doklady Akad. Nauk SSSR (N.S.) 70, 373–376 (1950). (Russian)

For each number k such that $0 < k \leq 1$, let D_1 be the open set in the (x, y)-plane whose boundary is $L + L_1 +$ part of L_2 where L is a smooth Jordan arc situated in the upper half plane $y \geq 0$ save for its end points [...] L_1 is the straight line segment [...] and L_2 is the straight line segment [...] The following mixed boundary value problem is considered: to determine a solution $u(x, y)$ of the equation $u_{xx} + \theta(y)u_{yy} = 0$ (where the step function $\theta(y)$ equals 1 for $y > 0$ and -1 for $y < 0$) in the open set D_k minus the open segment AB of the x-axis joining A and B, the function u having continuous first partial derivatives in the closure of D_k, save perhaps at A and at B, and satisfying the boundary conditions $u = \varphi$ on L and $u = \psi$ on L_1, where φ and ψ are given functions such that $\varphi(A) = \psi(A)$. For $k = 1$ this boundary value problem is akin to that dealt with by Tricomi [Atti Accad. Naz. Lincei.

Mem. Cl. Sci. Fis. Mat. Nat. (5) 14, 134–247 (1924)? for the equation $yu_{xx} + u_{yy} = 0$. (The authors also discuss a more complicated boundary value problem for the [...] which they call the "generalized Tricomi [...] be the open subset of D, which is bounded [...] straight line segment AB of the x-axis [...] denotes the problem for $k = 1$ can be [...] mination of a function harmonic in D, having boundary values on L and a prescribed directional derivative (in a fixed direction) on AB, and by a subsequent conformal mapping to an ordinary Dirichlet problem. For k not necessarily 1, the boundary value problem is reduced to the determination of a function harmonic in D, having prescribed boundary values on L, and whose tangential normal derivatives satisfy a certain relation on AB. Finally, analytic solutions, corresponding to analytic boundary values φ and ψ, are discussed.   *J. B. Diaz* (College Park, Md.).

Source: Mathematical Reviews,   Vol 11 No. [...]

LAVRENT'YEV, M. A.

PHASE I   TREASURE ISLAND BIBLIOGRAPHICAL REPORT   AID 627 - I

BOOK   Call No.: AF497335
  Authors: LAVRENT'YEV, M. A. and SHABAT, B. V.
  Full Title: METHODS OF THE THEORY OF FUNCTIONS OF A COMPLEX VARIABLE
  Transliterated Title: Metody teorii funktsiy kompleksnogo peremennogo
PUBLISHING DATA
  Originating Agency: None
  Publishing House: State Publishing House of Technical and
                     Theoretical Literature
  Date: 1951   No. pp.: 606   No. of copies: 10,000
  Editorial Staff
    Editors: Academician M. V. Keldysh, and Yu. K. Solntsev
    Contributors: A. V. Bitsadze and I. G. Aramovich
PURPOSE: Approved by the Ministry of Higher Education of the USSR as a
    textbook for students in engineering, mechanico-mathematical and
    physico-mathematical departments of state universities who have
    sufficient mathematical knowledge.
TEXT DATA
  Coverage: In the preface, the authors state that the existing full
    courses of the theory of functions of a complex variable either pre-
    suppose readers specializing in mathematics and are difficult for
    non-mathematicians, or present only the elements of the theory. Their
    book, they say, treats the subject mainly in its practical applica-
                                1/2